

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: John G. CARMAN Confirmation No.:
Application No.: Not yet assigned Group Art Unit:
Filing Date: Concurrently herewith Examiner:
For: METHODS FOR STABILIZING AND Attorney Docket No.: 81938-4299
CONTROLLING APOMIXIS

INFORMATION DISCLOSURE STATEMENT

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Commissioner for Patents
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Sir:

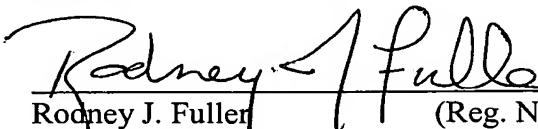
Pursuant to Applicants' duty of disclosure under 37 C.F.R. § 1.56, enclosed is a Form PTO-1449 containing a total of 86 references for the Examiner's review and consideration. Copies of those references labeled B3, C3, and C78 are enclosed herewith. Copies of the remaining references were previously disclosed by Applicant or cited by the Examiner in the parent applications hereof, those being U.S. Patent Application Serial No. 09/744,614, filed January 26, 2001, and U.S. Patent Application Serial No. 09/576,623, filed May 23, 2000. Copies of the remaining references will be provided if the Examiner so requests.

It is respectfully requested that the references be made of record in this application by the Examiner's completion and return of the enclosed Form PTO-1449.

This Information Disclosure Statement is filed under 37 C.F.R. § 1.97(b), before the latter of three months after the U.S. patent application filing date or the first Office Action on the merits. Accordingly, no fee or certification is required. Should any fees be required, however, please charge such fees to Winston & Strawn LLP Deposit Account No. 50-1814.

Respectfully submitted,

Date 2/6/09


Rodney J. Fuller (Reg. No. 46,714)
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WINSTON & STRAWN LLP
Customer No. 28765

202-371-5904

LIST OF REFERENCES CITED BY APPLICANT Form PTO-1449 <i>(Use several sheets if necessary)</i>				ATTY. DOCKET NO.:	APPLICATION NO.:	
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U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	CITE NO.	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	A1	5,710,637	01/1998	Kindiger et al.	800	200	
	A2	5,767,374	06/1998	De Greef et al.	800	205	
	A3	5,811,636	09/1998	Hanna et al.	800	200	

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	B1	WO 98/28431	07/1998	WIPO	C12N			
	B2							

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

C1	Asker and Jerling, Apomixis in Plants, p. 114. 1992.
C2	Asker and Jerling, Apomixis in Plants, p. 81-107, 241-283. 1992.
C3	Asker, S.E. et al., "Apomixis in Plants," CRC Press, Inc., Boca Raton, Florida, 1992
C4	Barcaccia et al. Comparison between isozyme and RAPD analyses to screen aberrant plants in <i>Poa pratensis</i> L. progenies, in Apomixis Newsletter, 7:29-30. 1994.
C5	Barcaccia et al., Environmental Influences on the Frequency and Viability of Meiotic and Apomeiotic Cells of a Diploid Mutant of Alfalfa. Crop Science. Vol. 37, pp. 70-76. 1997.
C6	Bashaw et al., Apomictic grasses. In: Principles of Cultivar Development Vol. 2, Fehr (ed.), Macmillan Publishing Company, New York, pp. 40-82. 1987
C7	Bashaw et al., Hybridization (N + N and 2N + N) of Facultative Apomictic Species in the <i>Pennisetum</i> Agamic Complex. Int. J. Plant Sci. Vol 153(3), pp. 466-470. 1992.
C8	Bashaw, Apomixis and its Application in Crop Improvement. Hybridization of Crop Plants, Fehr et al. (eds.), American Society of Agronomy and Crop Science Society of America, Madison, pp. 45-63. 1980.
C9	Bates et al., 1974, Wide Crosses. In: Proceedings of World-wide maize improvement in the 70's and the role of CIMMYT, April 22-26 El Batán, Mexico. 7 pp. CIMMYT.
C10	Battaglia, R., 1989. The Evolution of the Female Gametophyte of Angiosperms: an Interpretive Key, Annali di Botanica 47:7-144.
C11	Baum et al. Wide Crosses in Cereals. Annu. Rev. Plant Physiol. Plant Mol. Biol., 43:117-43. 1992.
C12	Bayer, R.J., Evolution of Polyploid Agamic Complexes with Examples from <i>Antennaria</i> (Asteraceae), Opera Botanica 132:53-65 (1996).
C13	Bell, P.R., Apospory and Apogamy: Implication for Understanding the Plant Life Cycle, International Journal of Plant Sciences 153: S123-S136 (1992).
C14	Bennett, S.T. et al., Spatial Separation of Ancestral Genomes in the Wild Grass <i>Milium montanum</i> Parl., Annals of Botany 70:111-118 (1992)

EXAMINER	DATE CONSIDERED
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		Concurrently herewith	

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)			
	C15	Carman JG, The evolution of gametophytic apomixis, In Batygina (ed) Embryology of Flowering Plants, Vol. 3, The Systems of Reproduction, Russian Acad Sci, St. Petersburg. 230-236. 2000.	
	C16	Carman JG. Asynchronous expression of duplicate genes in angiosperms may cause apomixis, bisporomy, tetrasporomy, and polyembryony. Biol J. Linnean Soc 61: 51-94. 1997.	
	C17	Carman, Evolution of Apomixis in <i>Antennaria</i> (Asteraceae): A Model Involving Hybrid Origins and Karyotypic Stabilization, presented at Plant & Animal Genome XI, The International Conference on the Status of Plant & Animal Genome Research. Town & Country Hotel, San Diego, California. January 11-15, 2003.	
	C18	Carman, J.G., Aposporous Apomixis in <i>Schizachyrium</i> (Poaceae:Andropogoneae), Crop Science 2:1252-1255 (1982)	
	C19	Carman, J.G., Comparative Histology of Cell Walls During Meiotic and Apomeiotic Megasporogenesis in Two Hexaploid Australian <i>Elymus</i> species, Crop Science 31:1526-1532 (1991).	
	C20	Carman, J.G., Gametophytic Angiosperm Apomicts and the Occurrence of Polysporomy and Polyembryony Among Their Relatives, Apomixis Newsletter 8:39-53 (1995)	
	C21	Carman, J.G., Phylogeny of Apomictic, Polysporic and Polyembryonic Angiosperms: Evolutionary and Regulatory Implications, Abstract of a paper presented at the international conference, Harnessing Apomixis, September 25-27, College Station, Texas (1995)	
	C22	Crane, C.F. et al., Mechanisms of Apomixis in <i>Elymus rectisetus</i> from Eastern Australia and New Zealand, <i>American Journal of Botany</i> , Vol. 74, pp.477-496.	
	C23	de Wet et al. 1970. Stable triploid hybrids among <i>Zea-Tripsacum-Zea</i> backcross populations. <i>Caryologia</i> 23:183-187.	
	C24	De Wet, J.M.J. et al., Gametophytic Apomixis and Evolution in Plants, <i>Taxon</i> 23:689-697 (1974)	
	C25	Ellerstrom et al., 1977. Sterility and apomictic embryo-sac formation in <i>Raphanobrassica</i> . <i>Hereditas</i> 87:107-120.	
	C26	Ellerstrom et al., 1983. Apomictic progeny from <i>Raphanobrassica</i> . <i>Hereditas</i> 99:315.	
	C27	Eshed et al., 1996. Less-than-epistatic interactions of quantitative trait loci in tomato. <i>Genetics</i> 143:1807-1817.	
	C28	Evans et al. Environmental Control of Reproduction in <i>Themeda Australis</i> , <i>Aust. J. Bot.</i> , 17:375-89. 1969.	
	C29	Garcia et al., 2000. Genetic variation in the progeny of maize/ <i>Tripsacum</i> hybrids. <i>Maize Genet. Coop. Newsletter</i> 74:40-41.	
	C30	Grimanelli et al, Mapping diplosporous apomixis in tetraploid <i>Tripsacum</i> : one gene or several genes, <i>Heredity</i> 80:33-39. 1998.	
	C31	Gustafsson Å. Apomixis in higher plants. III. Biotype and species formation. <i>Lunds Universitets Årsskrift</i> 43: 181-370. 1947.	
	C32	Hanna et al., Apomixis: Its identification and use in plant breeding. <i>Crop Science</i> . Vol. 27, pp. 1136-1139. 1987	
	C33	Holm et al. 1996. Sexuality and no apomixis found in crossing experiments with diploid <i>Potentilla argentea</i> . <i>Hereditas</i> 125:77-82.	
	C34	Hovin et al., Apomixis in Kentucky bluegrass. <i>Crop Science</i> . Vol. 16, pp. 635-638. 1976	
	C35	Hussey et al. Influence of photoperiod on the frequency of sexual embryo sacs in facultative apomictic buffelgrass, <i>Euphytica</i> 54:141-145. 1991.	

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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)			
C36	Jankun, A. et al., Apomixis at the Diploid Level in <i>Sorbus Eximia</i> (Embryological Studies in <i>Sorbus</i> 3), P. Praha 60:193-213 (1988)		
C37	Jefferson and Bicknell, The potential impacts of apomixis: a molecular genetics approach, in <i>The Impact of Plant Molecular Genetics</i> , Birkhauser, Boston, pp. 88-89, 94, 98). 1996.		
C38	Johri, et al., Comparative Embryology of Angiosperms, Vol. 1, pp. 1-4, 29-41, and 84-94, 1992.		
C39	Kandelaki, Remote Hybridization and the Phenomenon of Pseudogamy. Apomixis and Breeding, Khokhlov (ed.), Nauka Publishers, Moscow. 1970.		
C40	Knox, R.B. et al., Experimental Control of Aposporous Apomixis in a Grass of the Andropogoneae, Botanisk Notiser 116:127-141 (1963)		
C41	Knox, R.B., Apomixis: Seasonal and Population Differences in a Grass, Science 157:325-326 (1967)		
C42	Koltunow, A.M. et al., Apomixis: Molecular Strategies for the Generation of Genetically Identical Seeds Without Fertilization, <i>Plant Physiology</i> , Vol. 108, pp. 1345-1352 (1998).		
C43	Kraft et al. 2000. Linkage disequilibrium and fingerprinting in sugarbeet. <i>Theor. Appl. Genet.</i> 101:323-326.		
C44	Koltunow et al. Apomixis: molecular strategies for the generation of genetically identical seeds without fertilization, <i>Plant Physiol</i> 108: 1345-1352. 1995.		
C45	Leblanc et al. Detection of the apomictic mode of reproduction in maize- <i>Tripsacum</i> hybrids using maize RFLP markers, <i>Theor Appl Genet</i> 90: 1198-1203. 1995.		
C46	Leblanc, O. et al., Megasporogenesis and Megagametogenesis in Several <i>Tripsacum</i> species (Poaceae), <i>American Journal of Botany</i> 82:57-63 (1995)		
C47	Leblanc, O. et al., Timing of Megasporogenesis in <i>Tripsacum</i> species (Poaceae) as Related to the Control of Apomixis and Sexuality, <i>Polish Botanical Studies</i> *:75-81 (1994)		
C48	Liu et al. Hybrids and backcross progenies between wheat (<i>Triticum aestivum</i> L.) And apomictic Australian wheatgrass [<i>Elymus rectisetus</i> (Nees in Lehm.) A. Löve & Connor]: karyotypic and genomic analyses, <i>Theor Appl Genet</i> , 89:599-605. 1994.		
C49	Marshall, D.R., et al., The Evolution of Apomixis, <i>Heredity</i> 47:1-15 (1981)		
C50	Mogie, M. A Model for the Evolution and Control of Generative Apomixis, <i>Biological Journal of the Linnean Society</i> 35:127-153 (1988)		
C51	Mogie, The Evolution of Asexual Reproduction in Plants, 139-196. 1992.		
C52	Mujeeb-Kazi, A., Apomictic Progeny Derived from Intergeneric <i>Hordium-Triticum</i> Hybrids, <i>The Journal of Heredity</i> :72-284-285 (1981)		
C53	Mujeeb-Kazi, A., Apomixis in Trigeneric Hybrids of <i>Triticum aestivum</i> / <i>Leymus racemosus</i> / <i>Thinopyrum elongatum</i> , <i>Cytologia</i> 61:15-18 (1996)		
C54	Naumova et al., Apomixis in plants: structural and functional aspects of diplospory in <i>Poa Nemoralis</i> and <i>P. palustris</i> , <i>Protoplasma</i> 208:186-195, 1995.		
C55	Naumova, T.N. et al., Quantitative Analysis of Aposporous Parthenogenesis in <i>Poa pratensis</i> Genotypes, <i>Acta Botanica Neerlandica</i> 42:299-312 (1993)		
C56	Naumova, T.N. et al., Ultrastructural Characteristics of Apospory in <i>Panicum maximum</i> , <i>Sexual Plant Reproduction</i> 8:197-204 (1995)		
C57	Nogler, G.A., Genetics of Gametophytic Apomixis - A Historical Sketch, <i>Polish Botanical Studies</i> 8:5-11 (1994)		

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C58	Nordborg, B., Embryological Studies in the <i>Sanguisorba</i> Minor Complex (Rosaceae), <i>Botaniska Notiser</i> 120:109-119 (1967)
C59	Ozians-Akins, P., et al., Transmissions of the Apomictic Mode of Reproduction in <i>Pennisetum</i> : Co-Inheritance of the Trait and Molecular Markers, <i>Theoretical and Applied Genetics</i> 85:632-638 (1993)
C60	Ozias-Akins et al. Tight clustering and hemizygosity of apomixis-linked molecular markers in <i>Pennisetum squamulatum</i> implies genetic control of apospory by a divergent locus that may have no allelic form in sexual genotypes, <i>Proc Natl Acad Sci</i> 95: 5127-5132.
C61	Ozias-Akins, Characterization of the Genomic Region Associated with the Transmission of Apomixis in <i>Pennisetum</i> and <i>Cenchrus</i> , presented at Plant & Animal Genome XI, The International Conference on the Status of Plant & Animal Genome Research. Town & Country Hotel, San Diego, California. January 11-15, 2003.
C62	Peacock, J., Genetic Engineering and Mutagenesis for Apomixis in Rice, In. Wilson KJ, ed., <i>Proceedings of the International Workshop of Apomixis in Rice</i> , Changsha, China. New York: Rockefeller Foundation 11-22 (1993)
C63	Peel, M.D. et al., Megasporocyte Callose in Apomictic Buffelgrass, Kentucky Bluegrass, <i>Pennisetum squamulatum</i> Fresen, <i>Tripsacum</i> L., and Weeping Lovegrass, <i>Crop Science</i> , Vol. 37, No. 3
C64	Peel, M.D. et al., Meiotic Anomalies in Hybrids Between Wheat and Apomictic <i>Elymus rectisetus</i> (Nees in Lehm.) A. Love & Connor, <i>Crop Sci.</i> 37:717-723 (1997)
C65	Poehlman, Breeding Field Crops, 3 rd Ed., pp. 164-165, 332-339. 1987.
C66	Purnhauser et al., 1993. A method for crossing non-synchronously flowering parents in wheat, using cold storage of the female parent. <i>Cereal Res. Comm.</i> 21(2-3):175-179
C67	Quarin, Seasonal changes in the incidence of apomixis of iploid, triploid, and tetraploid plants of <i>Paspalum cromyorrhizum</i> . <i>Euphytica</i> . Vol. 35, pp. 515-522. (Abstract only) 1986
C68	Ramula et al. Apomixis for crop improvement, <i>Protoplasma</i> 208: 196-205 (see Abstract and Conclusions). 1999.
C69	Ramulu et al., Apomixis for crop improvement. <i>Protoplasma</i> . Vol. 208, pp. 196-205. 1999.
C70	Salisbury et al. <i>Plant Physiology</i> , 4 th Ed., pp. 504-514. 1992.
C71	Saran et al. 1976. Environmental control of reproduction in <i>Dichanthium intermedium</i> . <i>J. Cytol. Genet.</i> 11:22-28.
C72	Sharbel et al. Genome-Wide Genetic Variability and DNA Sequence Divergence along an Aneuploid Chromosome Associated with Apomixis in the <i>Arabis holboellii</i> Complex, presented at Plant & Animal Genome XI, The International Conference on the Status of Plant & Animal Genome Research. Town & Country Hotel, San Diego, California. January 11-15, 2003.
C73	Sherman, R.A. et al., Apomixis in Diploid X Triploid <i>Tripsacum dactyloides</i> hybrids, <i>Genome</i> 34:528-532 (1991)
C74	Sherwood et al. Inheritance of apospory in buffelgrass, <i>Crop Sci</i> 34:1490-1494. 1994.
C75	Sherwood. Genetic analysis of apomixis, in Savidan et al. ed., <i>The Flowering of Apomixis: From Mechanisms to Genetic Engineering</i> , D.F.:CIMMYT,IRD,EC DG V1, FAIR, 2001.
C76	That, New developments in hybrid rice. <i>International Rice Commission Newsletter</i> . Vol. 42, pp. 28-34. (Abstract only) 1993
C77	Torabinejad et al. Morphology and genome analyses of interspecific hybrids of <i>Elymus scabrus</i> , <i>Gérome</i> , 29:150-155. 1987.

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C78	Tsvetova, M. I. et al., "Intensification of Tendency to Apomixis in Sorghum Autotetraploids," Intern. Sorghum and Millet Newsletter, Vol. 39, pp. 66-67 (1998).		
C79	Vielle Calzada, J-P et al., Apomixis: the Asexual Revolution, Science 274:1322-1323 (1996)		
C80	von Bothmer R. et al., Complex Interspecific Hybridization in Barley (<i>Hordium vulgare L</i> and the Possible Occurrence of Apomixis. Theoretical and Applied Genetics, 76:681-690 (1988).		
C81	Williamson, The Influence of Light Regimes During Floral Development on Apomictic Seed Production and on Variability in Resulting Seedling Progenies of <i>Poa Ampla</i> and <i>P. Pratensis</i> . New Phytol. Vol. 87, pp. 769-783. 1981.		
C82	Zenktele. <i>In Vitro</i> Fertilization and Wide Hybridization in Higher Plants, Critical Reviews in Plant Sciences, 9: 267-279. 1990.		

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